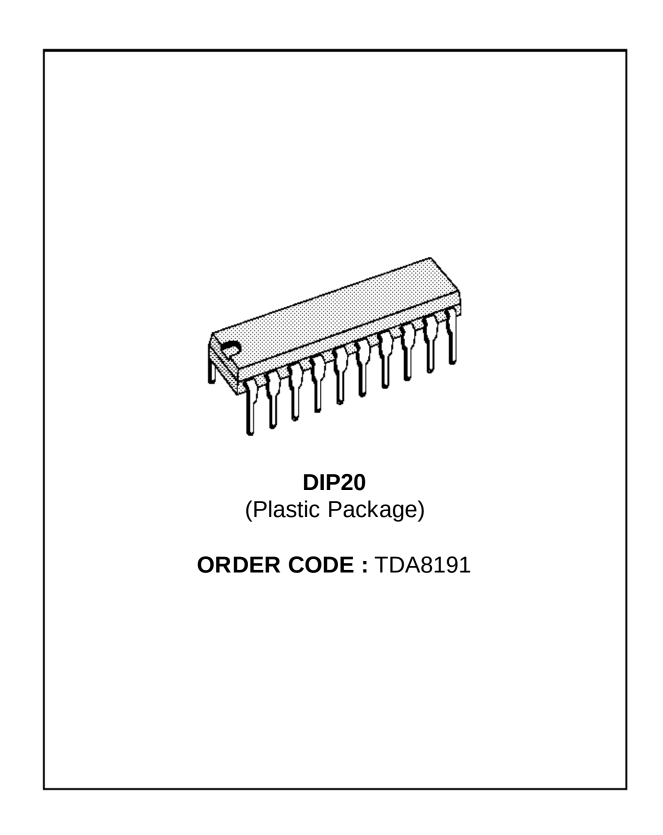


TDA8191

TV SOUND CHANNEL

- HIGH SENSITIVITY
- EXCELLENT AM REJECTION
- DC VOLUME CONTROL
- PERITELEVISION FACILITY
- 4W OUTPUT POWER
- LOW DISTORTION
- THERMAL PROTECTION
- TURN-ON AND TURN-OFF MUTING



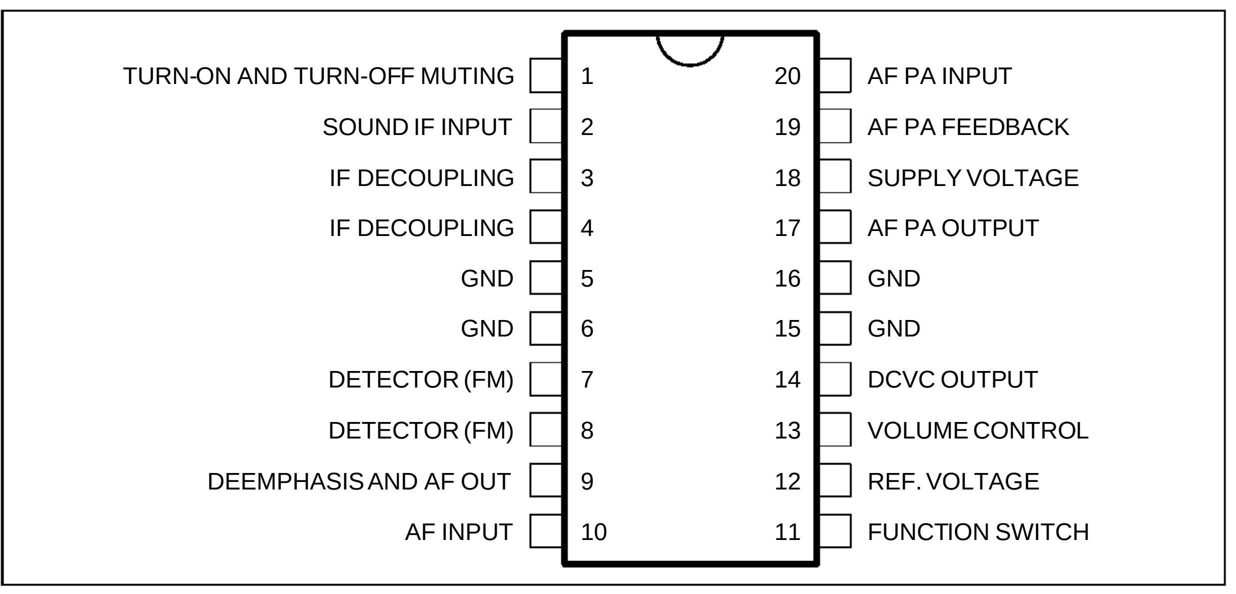
DIP20
(Plastic Package)

ORDER CODE : TDA8191

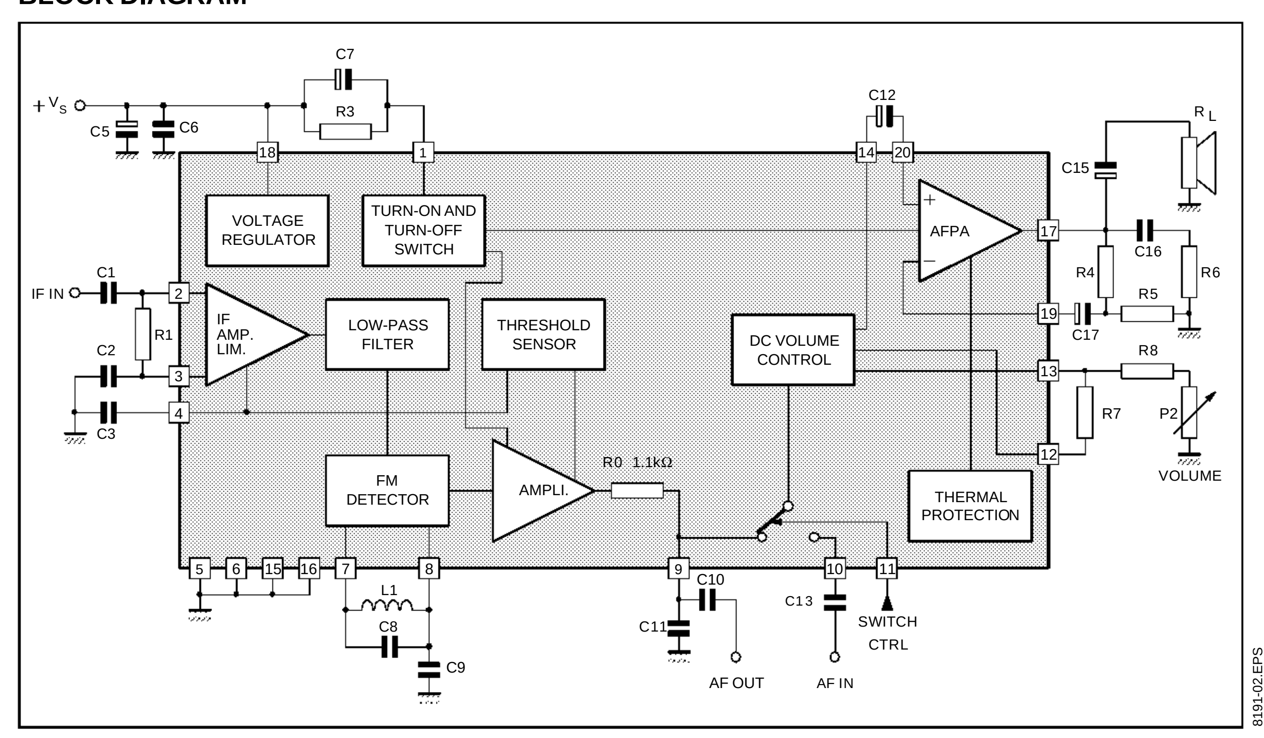
DESCRIPTION

The TDA8191 is a monolithic integrated circuit that includes all the functions needed for a complete TV sound channel. The TDA8191 is assembled in a 20 pin dual in line power package.

PIN CONNECTION



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Supply Voltage (pin 18)	28	V
V_I	Voltage at Pin 1	± V_S	
V_I	Input Voltage (pin 2)	1	V_{PP}
I_O	Output Peak Current (repetitive)	1.5	A
I_O	Output Peak Current (non repetitive)	2	A
P_{tot}	Total Power Dissipation : at Tpins = 90°C at Tamb = 70°C	4.3 1	W W
T_{stg}, T_j	Storage and Junction Temperature	– 40 to 150	°C

8191-01.TBL

THERMAL DATA

Symbol	Parameter		Value	Unit
$R_{th\ (j\text{-}pins)}$	Junction-pins Thermal Resistance	Max	14	°C/W
$R_{th\ (j\text{-}a)}$	Junction-ambient Thermal Resistance	Max	80	°C/W

8191-02.TBL

ELECTRICAL CHARACTERISTICS

(Refer to fig. 1 ; V_S = 24V, R_L = 16Ω, Pin 11 floating, Δf = ±50kHz, V_i = 1mV, f_o = 5.5MHz, f_m = 1kHz, T_{amb} = 25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_S	Supply Voltage (Pin 18)	Vc = 4.5V	10.8	24	27	V
V_O	Quiescent Output Voltage (Pin 17)	Vc = 4.5V	11	12	13	V
V_1	Pin 1 DC Voltage	Vc = 4.5V		5.3		V
I_D	Quiescent Drain Current	Vc = 4.5V		35		mA
V_I	Input Limiting Voltage at Pin 2 (– 3dB)	Vo = 4V_{RMS}		50	100	µV

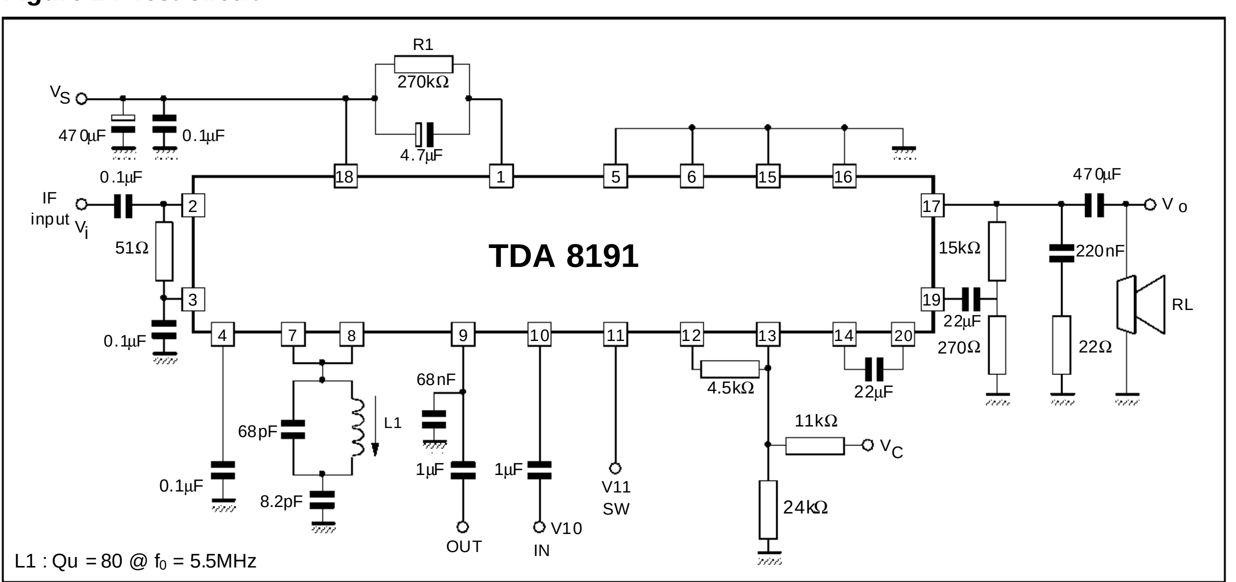
8191-03.TBL

ELECTRICAL CHARACTERISTICS (continued)
(Refer to fig. 1 ; V_S = 24V, R_L = 16Ω, Pin 11 floating, Δf = ±50kHz, V_i = 1mV, f_o = 5.5MHz, f_m = 1kHz, T_{amb} = 25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_9	Recovered Audio Voltage (pin 9)	V_C = 4.5V, Δf = ± 15kHz	200		400	mV_{RMS}
R_9	Deemphasis Resistance	f = 20Hz to 20kHz	500	700	1000	Ω
AMR	Amplitude Modul. Rejection	m = 0.3, V_O = 4V_{RMS}	45	60		dB
R_I	Input Resistance (pin 2)	Δf = 0		30		kΩ
C_I	Input Capacitance (pin 2)	Δf = 0, V_C =4.5V		6		pF
V_{12}	DCVC Reference Voltage		5.6		6.2	V
Kv	Volume Attenuation	V_C = 0.5V ; Fig. 2 V_C = 4.5V ; Fig. 2	 80		1.0	dB dB
$\frac{\Delta K_V}{\Delta T_j}$	Volume Attenuation Thermal Drift	T_j = 300 to 380°K Fig. 3		– 0.05	– 0.1	dB/°C
P_O	Output Power (d = 10%)		3.5	4		W
SVR	Supply Voltage Rej. (Pin 17) (Pin 9)	V_C = 4.5V f_{ripple} = 100Hz	 20 50	 26 60		 dB dB
V_{11}	Function Switch. - Television Broadc. Reproduction		0		2	V
			or Pin 11 Floating			
	- Peritelevision Reproduction		8		12	V
R_{11}	Input Resistance		10			kΩ
V_{10}	Input Voltage (d ≤ 2%)	V_O = 4V_{RMS} ; V_{11} = 12V		0.5	2.0	V_{RMS}
R_{10}	Input Resistance	f = 20Hz to 20kHz	10			kΩ
CT	Crosstalk between Pins 9, 10		60			dB
$\frac{S+N}{N}$	Signal to Noise Ratio	Δf = 0 ; V_O = 4V_{RMS}	60	70		dB
d	Distortion (P_O = 250mV)				2	%
Δf	Deviation Sens.	V_C = 0.5V ; V_O = 4V_{RMS}		± 4	± 10	kHz

8191-04.TBL

Figure 1 : Test Circuit



TYPICAL APPLICATION

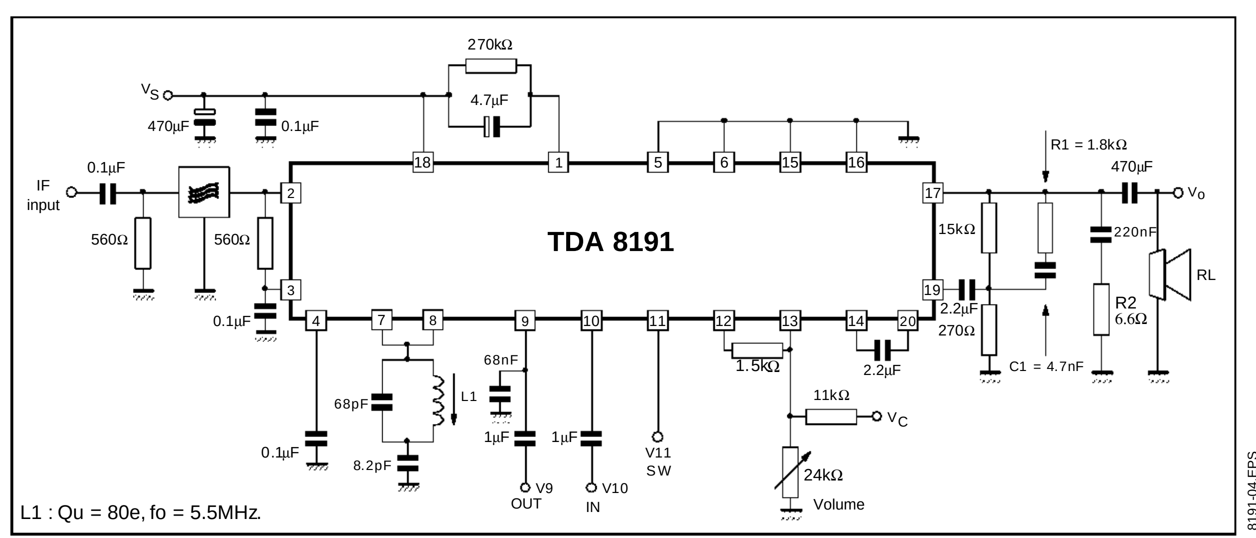


Figure 2 : Volume Attenuation versus DC Volume Control Voltage

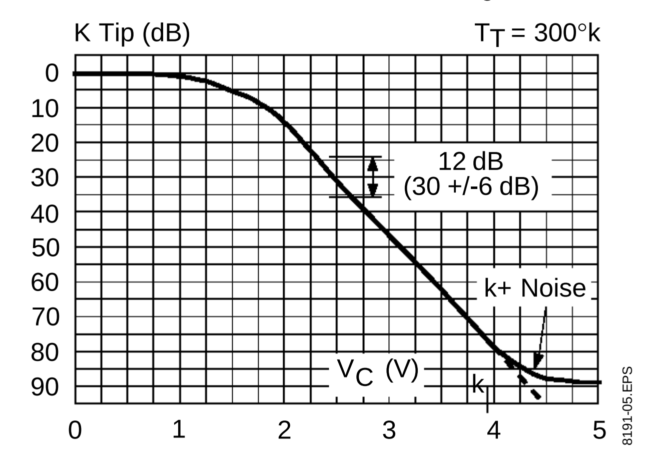


Figure 3 : Volume Attenuation Thermal Drift

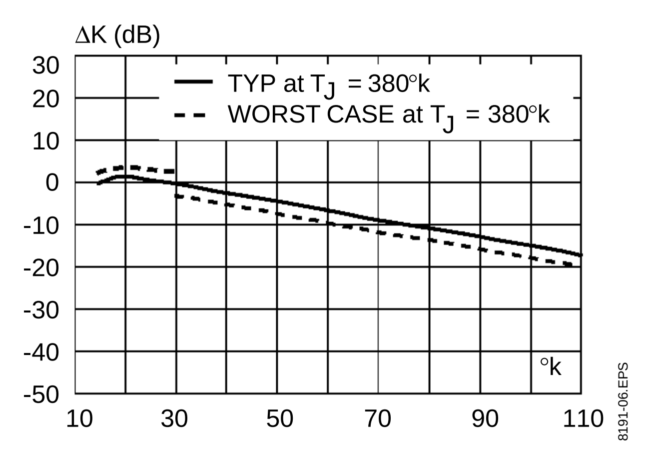


Figure 4 : Relative Audio Output Voltage and Output Noise versus Input Signa

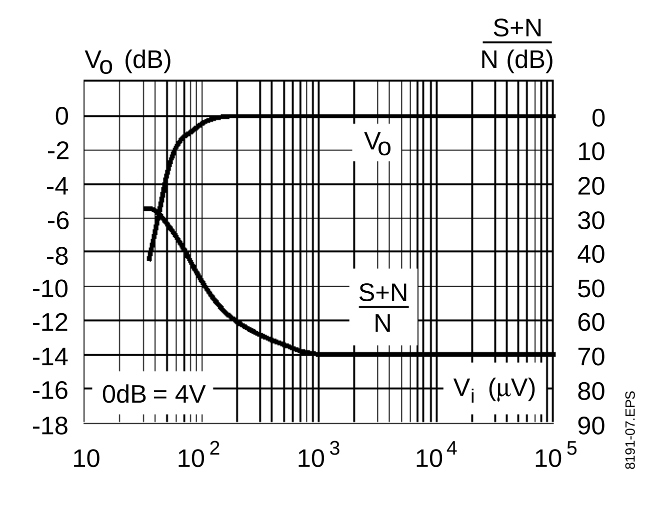


Figure 5 : Distortion versus Output Power

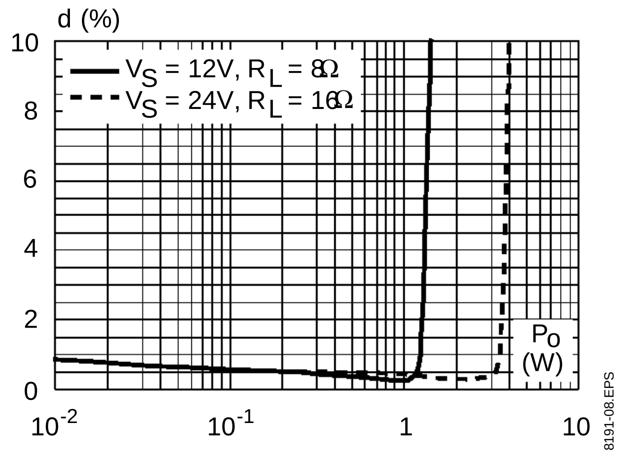


Figure 6 : Audio Amplifier Frequency Response

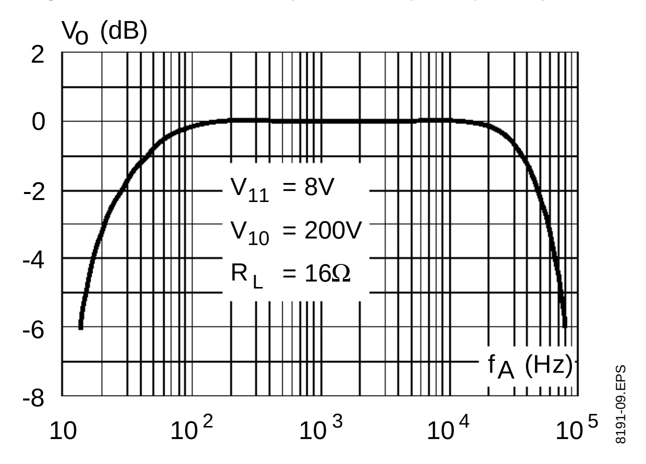


Figure 7 : Output Power versus Supply Voltage

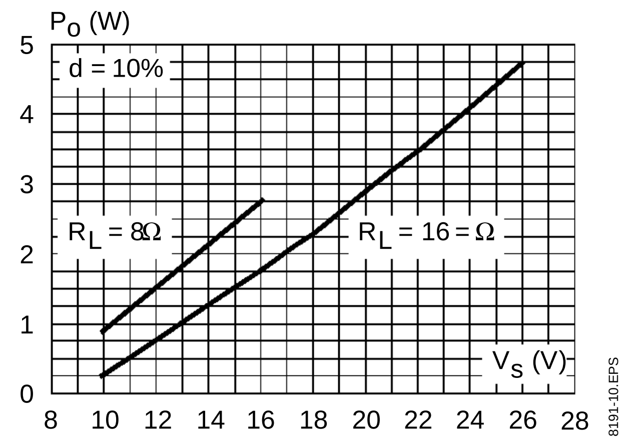


Figure 8 : Power Dissipation versus Supply Voltage (sine wave operation)

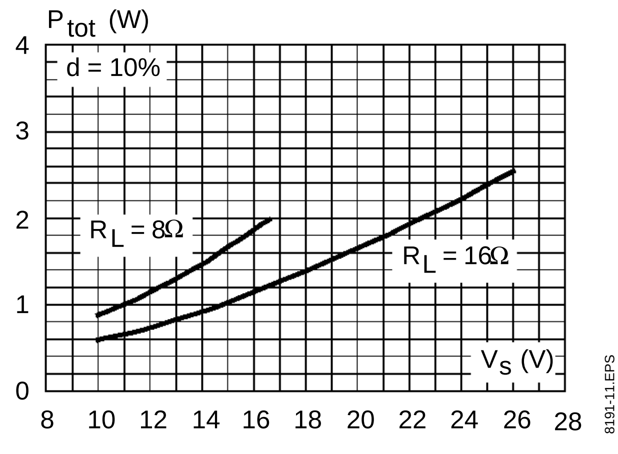


Figure 9 : Power Dissipation and Efficiency versus Output Power

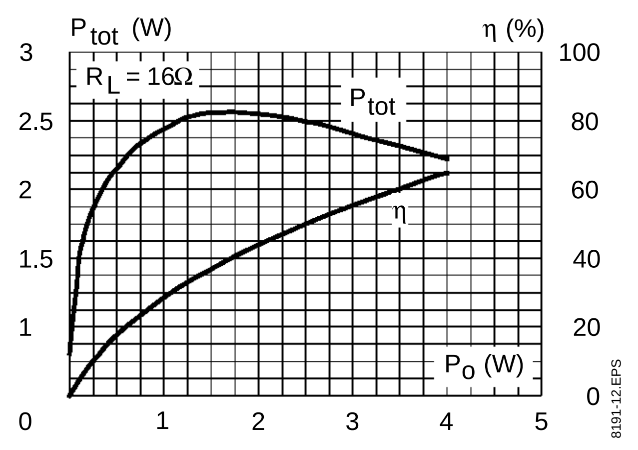
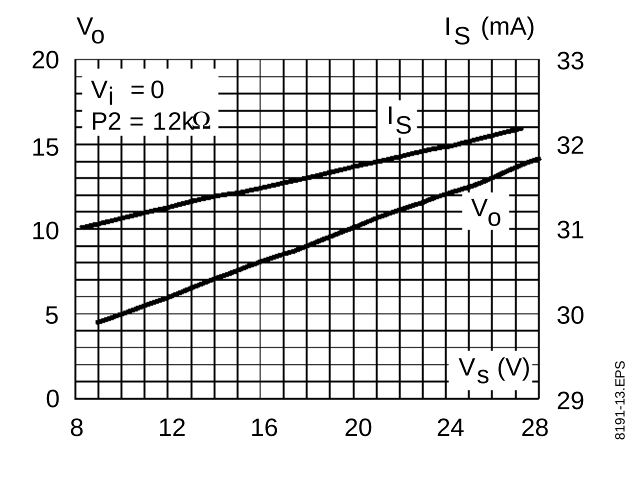
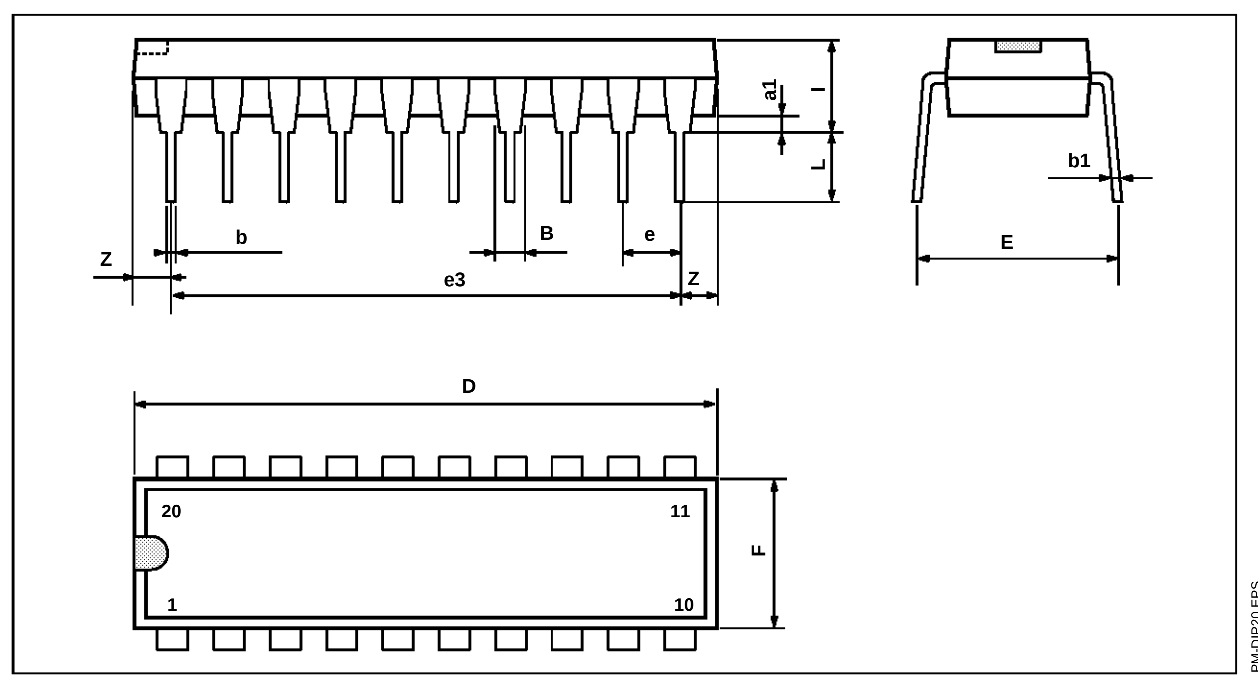


Figure 10 : Quiescent Drain and Quiescent Output Voltage versus Supply Voltage



PACKAGE MECHANICAL DATA

20 PINS - PLASTIC DIP



PM-DIP20.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
a1	0.254			0.010		
B	1.39		1.65	0.055		0.065
b		0.45			0.018	
b1		0.25			0.010	
D			25.4			1.000
E		8.5			0.335	
e		2.54			0.100	
e3		22.86			0.900	
F			7.1			0.280
i			3.93			0.155
L		3.3			0.130	
Z			1.34			0.053

DIP20.TBL